

## FOR SHORT ANSWERS

See p 1111

## FOR LONG ANSWERS

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## STATISTICAL QUESTION

### Type I and type II errors

Which of the options below best describes a type II error?

- The probability that the null hypothesis is true
- The probability that the null hypothesis is false
- It is made if the null hypothesis is accepted when it is false
- It is made if the null hypothesis is rejected when it is true
- None of the above

Submitted by John Fletcher

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## ON EXAMINATION QUIZ

### Diabetic ketoacidosis

The answer to this question and more questions on this topic are available from [www.onexamination.com/endgames](http://www.onexamination.com/endgames) until midnight on Wednesday.

This week's quiz is on diabetic ketoacidosis and is taken from the Endocrinology and Diabetes Knowledge Based Assessment examination.

A 21 year old woman with a four year history of type 1 diabetes was admitted with dysuria, fever, and rigors. She had been using mixed insulin twice daily and her glycated haemoglobin had been 7.2% at annual review three months ago.

On examination, she had a temperature of 39°C, a blood pressure of 112/76 mm Hg, and a pulse of 110 beats/min. Cardiovascular and respiratory examination were unremarkable. She had diffuse tenderness on abdominal examination.

Laboratory results on admission showed plasma glucose 32 mmol/l (normal range 3.5-6), pH 7.1 (7.35-7.45), and standard bicarbonate 9 mmol/l (22-28).

The patient was started on intravenous sliding scale insulin.

Which of the following options is the most appropriate strategy to manage her pH status?

- Intravenous bicarbonate infusion should be given in the high dependency unit
- Intravenous bicarbonate should be given and the patient transferred to a medical ward
- Intravenous bicarbonate should be given as an infusion
- Oral bicarbonate should be given
- Intravenous bicarbonate is not needed

## PICTURE QUIZ

### Recurrent chest infection in a 5 year old boy

A boy born at 38 weeks' gestation presented with neonatal respiratory distress requiring oxygen and was found to have dextrocardia. During the first few years of life he had persistent mucopurulent rhinitis, intermittent wet cough, and bilateral serous otitis media. He was treated with several courses of oral and intravenous antibiotics for respiratory tract infections. The chest radiograph was taken when he was 5 years old.



- Describe the abnormalities shown.
- What is the likely diagnosis?
- How else might such a patient present?
- What screening and diagnostic tests are available?

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## CASE REPORT

### A man with high blood pressure

A 29 year old white man presented to general practice after a routine check at work, which was carried out because he felt lightheaded. His work found a blood pressure of 178/104 mm Hg and a pulse rate of 100 beats/min. His cousin, who was a nurse, rechecked his blood pressure and found it to be 138/92 mm Hg. He was not a regular attendee at the surgery and was taking no drugs. He had occasionally felt lightheaded during the past year, but he had never fainted. He had a family history of high blood pressure. He was slim (body mass index of 20), and in the surgery he had a blood pressure of 172/94 mm Hg and a pulse rate of 98 beats/min. Optic fundi, peripheral pulses, heart sounds, and chest examination were all normal. He had no abdominal bruits.

- What is the most likely diagnosis?
- What other conditions might you suspect?
- How would you assess him further?
- How would you manage and follow up this patient?

Submitted by Brian McKinstry and Paul Padfield

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